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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,028	07/09/2003	Mark E. Addis	EH-10778	1533
30188	7590	11/17/2004	EXAMINER	
PRATT & WHITNEY 400 MAIN STREET MAIL STOP: 132-13 EAST HARTFORD, CT 06108			PEAVEY, ENOCH E	
			ART UNIT	PAPER NUMBER
			3676	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/616,028	Applicant(s) ADDIS, MARK E. 	
	Examiner Enoch E Peavey	Art Unit 3676	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5,6,8-18 and 20-27 is/are pending in the application.
- 4a) Of the above claim(s) 20-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

I. Newly submitted claims 20-27 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The claims are directed towards the method of making the brush seal

A. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 20-27 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Claim Rejections - 35 USC § 112***

II. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

A. Claims 1-3, 5, 6 and 8-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what is meant by "first set of bristles extending further from the brush seal than said second set of bristles"? The first set of bristles and second set of bristles are part of the brush seal.

### ***Claim Rejections - 35 USC § 102***

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III. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

A. Claims 1, 5 and 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kelch et al. US No. 5,201,530 ("Kelch").

i. Kelch discloses a brush seal (FIG. 2), comprising:

a back plate (15);

a side plate (14);

a first set of bristles (16); and

a second set of bristles (20) between the first set of bristles (16) and the side plate (14);

wherein the second set of bristles (20) have a characteristic, different than the first set of bristles, that reduces windage effects on the first set of bristles (Col. 3, lines 30-31).

ii. The sets of bristles have non-interfering lay angles (FIG. 5).

iii. The second set of bristles (20) extends at least to the back plate (15).

The first and second sets of bristles comprise separate bristle packs (FIG. 2).

B. Claims 1-3, 5, 6-9, 11, 12, 14, 15 and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Flower, US No. 5,480,165 ("Flower").

i. Flower discloses a brush seal (FIG. 6), comprising:

a back plate (15);

a side plate (21);

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- ii. There is a set of contacting bristles (19) that engages the second component (11); and a set of non-contacting bristles (17) that extends towards, but does not engage, the second component (11).
- iii. The set of non-contacting bristles (17) resides between the set of contacting bristles (19) and the side plate (21).
- iv. The sets of bristles have non-interfering lay angles (FIG. 4).
- v. The set of non-contacting bristles (17) is more rigid (Col. 5, lines 41 and 42) than the set of contacting bristles (19).
- vi. The set of non-contacting bristles (17) have a diameter larger than bristles in the set of contacting bristles (FIG. 6).
- vii. The set of contacting bristles (19) and the set of non-contacting bristles (17) comprise separate bristle packs (FIG. 6).
- viii. The non-contacting bristles (17) extends at least to the back plate (15).
- iv. The set of longer bristles (19) adjacent a set of shorter bristles (17), wherein the improvement comprises the shorter bristles (17) located on a high pressure side (Col. 5, lines 54-55) of the longer bristles (19).

***Claim Rejections - 35 USC § 103***

IV. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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A. Claims 6 and 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flower.

i. Flower does not disclose the lay angle being between  $-15$  and  $15$  degrees.

ii. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Flower, making the lay angle between  $-15$  and  $15$  degrees, to find the optimum range in which sealing occurs, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involve only routine skill in the art. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233,235 (CCPA 1955)

B. Claims 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelch in view of Fellenstein, US No. 6,457,719 ("Fellen").

i. Kelch discloses substantially the same seal as applicant except there being a windage cover.

ii. Fellen discloses a windage cover in order to allow deflection of the brushes upstream (FIG. 2).

iii. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Kelch as taught by Fellen in order to allow deflection of the brushes upstream (FIG. 2).

C. Claims 10 and 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flower in view of Fellen.

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- i. Flower discloses substantially the same seal as applicant except there being a windage cover.
- ii. Fellen discloses a windage cover in order to allow deflection of the brushes upstream (FIG. 2).
- iii. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Flower as taught by Fellen in order to allow deflection of the brushes upstream (FIG. 2).

#### ***Response to Arguments***

V. Applicant's arguments filed 11 August 2004 have been fully considered but they are not persuasive. Applicant argues that the prior art does not teach the "first set of bristles extending further from the brush seal than said second set of bristles". It is unclear how this is possible when the brush seal comprises both sets of bristles. Examiner suggest using another reference point e.g. the housing.

VI. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Enoch E Peavey whose telephone number is 305 1977. The examiner can normally be reached on Mon-Fri 8:00 am to 4:30 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on (703) 306-4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Enoch E Peavey

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November 14, 2004

